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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,390	01/16/2002	Stephen F. Gass	SDT 319	2969

27630 7590 12/28/2005

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EXAMINER	
ALIE, GHASSEM	
ART UNIT	**PAPER NUMBER**
3724	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/053,390	GASS ET AL.	
	Examiner	Art Unit	
	Ghassem Alie	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/10/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 21-29* is/are pending in the application.

4a) Of the above claim(s) *2-8 and 21-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 24-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. In view of the appeal brief filed on 10 October 2005, PROSECUTION IS HEREBY REOPENED. A new grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 and 24-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 1 and 29, disclosure fails to teach what are the predetermined characteristics that are indicative of contact between a person and the dangerous portion. Is there more than one characteristics that could indicates a person contact the dangerous portion? It is not clear how the signal can have more than one characteristic when a person touches the dangerous portion of the woodworking machine which is naturally a cutting blade.

Regarding claims 1 and 29, the disclosure fails to properly teach how within 200 microseconds the signal can be sampled a plurality of times and the blade rotation can be stopped by the brake mechanism. In another words, the blade is stopped immediately, which 200 microseconds, by a brake mechanism when a person touches a single tooth of the blade. It is not clear how within 200 microseconds before a second tooth of the blade touches the person; the signal can be sent to the controller, the signal can be sampled plurality of times, it could be determined that if signal has more than one predetermined characteristics of a contact between the person and the blade, a signal can be sent to reaction system, and finally, a brake mechanism can be activated to stop the blade before a second tooth of the blade contact the person.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1, 24, and 29, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann (3,858,095) in view of Kashioka et al. (5,921,367), hereinafter Kasioka. Regarding claim 29, Friemann teaches a method for detecting accidental contact between a person and a dangerous portion 5 of a woodworking machine 10 including steps of providing a first electrode electrically coupled to a person, providing a second electrode electrically coupled to the dangerous portion 5, and transmitting a signal by one of the first or second electrodes and detecting whether the transmitted signal is received by the other of the

first or second electrodes. If an operator should touch the band saw, or the dangerous portion, the capacitance Cbm, which is connected to the band saw, is thereby changed and a voltage is transmitted from the bridge 3 to the amplifier circuit 4. The voltage is considered to be the signal which is transmitted by one of the first or second electrodes. See Figs. 1-6 and col. 3, lines 6-67 in Friemann.

Friemann does not teach when the transmitted signal is received by the other of the first or the second electrode, the signal is sampled a plurality of times to determine if the signal has at least one predetermined characteristic indicative of contact between a person and the dangerous portion.

Kashioka a detective mechanism 1 that detects proximity of a person A to a dangerous portion 12. Kashioka also teaches a judging circuit 3 or a processing device that monitors the proximity of the operator's hand to the dangerous portion. Electrostatic capacitance sensor 1 detects the proximity of the person to the dangerous portion 12 and supply signal to the judging circuit 3 at any time. The judging circuit judges the incoming signals and stop the machine base on a result of the judgment that the electrostatic capacitance exceeds the predetermined value. The exceed of the capacitance from the predetermined level is equivalent to one predetermined characteristic that indicates a person is in predetermined proximity to the dangerous portion. The signal is sampled a plurality of times before the judging circuit 3 sends a control signal to the driving unit 11a. See Figs. 1-11 and col. 9, lines 1-62 in Kashioka. It should be noted that the distance between the person and the dangerous portion of the machine is adjustable. Therefore, the predetermined distance can be reduced to zero, which translates to an actual contact between the operator

and the dangerous part as taught by Friemann. It would have been obvious to a person of ordinary skill in the art to provide Friemann's detector with the circuit judge and the sampling function, as taught by Kashioka, in order to ensure that a part of the operator body is in contact or close proximity to the dangerous part of the machine before the reaction system is activated.

Regarding claim 1, Friemann, as modified by Kashioka, does not explicitly that the signals are sampled a plurality of times within 200 microseconds. Kashioka teaches that the signal is sampled a plurality of times within a period of time. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manipulate the sampling period to a desired result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 24, Friemann as modified above teaches everything noted above including that the predetermined characteristic indicative of contact between a person and the dangerous portion distinguishes such contact from proximity between a person and the dangerous portion.

7. Claim 25-28, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann in view of Kashioka, as applied to claim 1, and in further view Hokodate et al. (6,150,826), herein after Hokodate. Regarding claim 25-28, Friemann, as modified above, teaches everything noted above except that one predetermined characteristic indicative of contact between a person and the dangerous portion involves peak-to-peak amplitude, phase, a positive value, and a negative value. Friemann, as modified above, also

does not teach that the detection of distance between the two electrodes involves in-phase, maximum amplitude or pick-to-pick amplitude, and phase shifting which inherently involves negative and positive values. However, Hokodate teaches a distance detector 400 which has sampling circuit to sample the detection's output of the detecting circuit 8 a plurality of times within a predetermined of time to determine the actual distance between the two electrodes or workpiece 2 and a laser beam 4. Hokodate also teaches one predetermined characteristic indicative of contact between a person and the dangerous portion involves peak-to-peak amplitude, phase, a positive value, and a negative value. Hokodate also teaches that the detection of distance between the two electrodes involves in-phase, maximum amplitude or pick-to-pick amplitude, and phase shifting which inherently involves negative and positive values. See Figs. 1-16 and col. 11, lines 1-67 and col. 12, lines 1-64 in Hokodate. It would have been obvious to a person of ordinary skill in the art to provide Friemann, as modified above, with the detection system between the two electrodes as taught by Hughes, since the detection system in Friemann, as modified above, is equivalent to the detection system as taught by Hokodate, and both detection systems work the same.

Response to Amendment

8. Applicant's arguments with respect to claims 1 and 24-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nonyama (6,257,061), Hayashi (3,953,770), Ingraham (4,831,279), Thomson et al.

(5,880,954) teach a capacitance detective system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, SEE http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (too-free).

Allan N. Shoap
Supervisory Patent Examiner
Group 3700

GA/ga

December 23, 2005